Using Sourcil vs Bone Margin as Anatomic Landmark on False-Profile Radiographs Yields Different ACEA Values: Response

Authors' Response:

We appreciate the opportunity to respond to comments from Dr Needell with regard to our article. As noted by him, it is important to acknowledge the history of the anterior center-edge angle (ACEA) measurement. Lequesne and de Seze[3] first described the ACEA using the sourcil as the anterior reference point, and Crockarell et al[1] later described the ACEA using the acetabular bone edge. In our study,[4] we utilized the acetabular bone edge for all ACEA measurements.

We agree with Dr Needell that differences in ACEA measurements may exist based on the anterior reference point used. Indeed, we previously published a study[2] addressing this issue, which showed that measuring the ACEA to the bone edge was on average 10° (95% CI, –2° to 22°) greater than the ACEA sourcil measurement. Thus, sourcil and bone-edge measurements should not be used interchangeably. It is possible that the 3-dimensional (3D) anatomic correlate of the bone-edge and sourcil ACEA also differ based on the selected 2D landmark; however, addressing this question was outside the scope of our study.[4]

Dr Needell rightly acknowledged that a gold standard has not been established for the ACEA anterior reference point, and it is unknown which measurement is more useful in the context of hip preservation surgical planning. We believe that both sourcil and bone-edge ACEA measurements provide valuable information in characterizing the anterior acetabular rim bony morphology. Regardless, when reporting ACEA values, it is critical that measurement technique be clearly described. Our publication represents an initial effort to clarify the utility of the bone edge ACEA specifically, and it underscores the value added by 3D measurements given the sensitivity of the ACEA to patient position. We are currently in the process of completing a study that will demonstrate the importance of both measurements when evaluating the anterior acetabular coverage. Future work should continue to examine the 3D mapping of ACEA measurements.

Stephen K. Aoki, MD
Joseph D. Mozingo, PhD
Lindsay L. Schuring, MS
Andrew E. Anderson, PhD
Reece M. Rosenthal, BS
Salt Lake City, Utah, USA

Address correspondence to Stephen K. Aoki, MD (email: stephen.aoki@hsc.utah.edu).

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